

TSIKOV, D.; FINEV, F.

Collective of the Agricultural Research Institute of the
Hungarian Academy of Sciences, Martonvasar, paying a visit to
Bulgarian agriculturists. Sel'skostonauka 2 no.9:1171-1172 '64.

TSIKOV, D.; LAGADINOVA-STAIKOVA, E.

Symposium on Wheat Genetics and Selection. Selskoston nauka
[2] no. 2: 265-268 '63.

TSIKOV, D.

BULGARIA/General Biology. Genetics

B-5

Abs Jour : Ref Zhur - Biol., No 22, 1953, No 93969

Author : Georgiyeva R., Tsikov D., Georgiyeva I., Dilov,
Kh., Pchelarov V.

Inst : Institute of Plant Growing, Bulgarian AS

Title : Periodical and Genetic Difference in Quality of
Potatoes During the Regeneration

Orig Pub : Izv. In-ta rasteniyevodstvo. B"lg. AN, 1957,
kn. 4, 73-107

Abstract : Plants developed from rooting of shoot tops in
aguila and cardinal kinds resembled in their pro-
gress of ontogenesis the plants grown from the
appropriate tubers; and therefore, authors sup-
pose, the axillary buds in regard to the old shoots
correspond to the tubers' ocelli according to their
periodical development. On the conditions of
summer planting, the plants from the rooted grafts
developed normally and produced tubers indicating

Card : 1/2

BULGARIA/General Biology. Genetics

B-5

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 98969

no signs of degeneration. The plant tubers obtained from the rooted grafts appeared to be watery, had higher relative content of saccharose and the general content of all sugars; they also had higher activity of catalase and lower plasma permeability than the plant tubers obtained by the usual planting method. Next year, from the tubers obtained from the rooted top grafts, the more powerful and more productive plants developed. The rooting of the top graft can be recommended as means to speedy multiplication of the valuable potato forms. The authors advise to use changes in plants obtained from graft during the breeding of the new potato sorts. -- A.I. Kuptsov

Card : 2/2

TSIKOV, Dim

An international scientific conference on plant heterosis.
Spisanié BAN 6 no.4:94-103 '61.

TSIKOV, D.K.

Tsikov, D., Stoilov, M., "Studies on the Storing of Dry Substance, the Dynamics of Water Content, and the Germination during the Period of Seed Formation." p.45 (IZVESTIYA, Vol. 2, 1951, Sofiya.)

SO: MONTHLY LIST of East European Accessions, Vol. 3, No. 3, Library of Congress, March 1954, Uncl.

TSIKOV, D.K.

Mikhov, A., Tsikov, D., "Summer Plantings of Peas as a Measure for Preventing Damages Caused by the Pea Weevil." p.67 (IZVESTIYA, Vol. 2, 1951, Sofiya.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress, March 1954, Incl.

TSIKOV, Dimitur

Some genetic problems related to the effect of low temperatures
on plants. Priroda Bulg 13 no.4:33-36 J1-Ag '64.

1. Central Laboratory of Genetics.

TSIKOV, D.K.

Making use of heterosis of cultivated plants. Priroda 45 no.9:
68-70 S '56. (Heterosis) (MIRA 9:10)

COUNTRY : BULGARIA
 CATEGORY : Cultivated Plants. Cereals. R
 ABS. JOUR. : RZhBiol., No.23, 1958, No.104593
 AUTHOR : Stefanov, E., Razsolkova, Ye., Tsikova, Ye.
 INST. : -
 TITLE : Results of Some Studies on Determination of the Influence
 of Pre-Sowing Soaking of Seeds on Their Germination.
 ORIG. PUB. : Izv. in-ta za gorat. Bulg. Ak., 1957, 2, 245-307
 ABSTRACT : A delay in germination has been observed with the treatment
 of corn seeds by means of pre-planting soaking in 3% solu-
 tion of KBr for 3 hours and those of rice for 48 hours.
 With soaking in a weak solution of KBr, the delay in ger-
 mination is considerably less, the process runs its course
 almost identically as with the pre-planting soaking in
 distilled water. With the prolonged soaking of rice seeds
 for 7 days in 3 and 10% solution of NaCl and 3% KBr, a
 retarded germination has been observed. With such compar-
 atively long process of soaking the seeds, sugar, proteins

Card: 1/2

COUNTRY	:	
CATEGORY	:	M
ABG. JOUR.	:	RZNBiol., No. 1958, No. 104598
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	:	and coloring matter pass into the solution used for the treatment. With the transfer of the seeds from salt solutions into distilled water, an accelerated growth of the root system in the sprouting grains has been observed. -- O. V. Yakushkina

Card: 2/2

Tsikova, Yel.
BULGARIA/Forestry - Forest Plants.

K-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10616
Author : Stefanov, B., Tsikova, Yel.
Inst : Institute for Forests, Academy of Sciences Bulgaria.
Title : Foreign Poplars Cultivated in Bulgaria.
Orig Pub : Izv. In-ta za gorata, B'lg. Akad Nauk, 1957, 2, 383-396

Abstract : Particular attention is devoted to species of Algeiros poplar group since they seem to be the most likely to produce hybrid forms through field and vegetative [artificial ?] crossbreeding. A description is given of the most reliable morphological indices for recognizing the poplars of this group.

Card 1/1

TSIKRA, A.A., gornyy inzh.

For a better utilization of the coal cutter-loader. Ugol'
Ukr. 6 no.9:30-31 S '62. (MIRA 15:9)

1. Shakhta No.3-bis Chistyakovskogo tresta predpriyatiy
ugol'noy promyshlennosti Donbassa Ministerstva ugol'noy promyshlennosti SSSR.

(Coal mining machinery)

MARKIN, I.G.; YUROVA, Ye.I.; TSIKULAYEVA, K.I., normirovshchik

Exemplary assistant foreman. Tekst.prom. 19 no.8:61-62
Ag '59. (MIRA 13:1)

1. Nachal'nik tsukha Dreznenskoy fabрики (for Markin). 2. Nachal'-
nik byuro tekhnicheskoy informatsii Dreznenskoy fabрики (for
Yurova). 3. Dreznenskaya fabrika (for TSikulayeva).
(Textile workers)

KAZANTSEVA, M.N., prof.; TSIKULI, R.; ALEKSIYEV, L.

Clinical microbiological studies of gastrointestinal diseases in infants [with summary in English]. *Pediatrica* 37 no.1:69-72 Ja '59.
(MIRA 12:1)

1. Iz kafedry detskikh bolezney meditsinskogo fakul'teta (rukovoditel' - prof. M.N. Kazantseva) Gosudarstvennogo universiteta Albanii na baze gospi'talya v Tirane (glavnyy vrach Sh. Klozi).
(GASTROINTESTINAL DISEASES, in inf. & child clin. & microbiol. analysis (Rus))

SOV/76-32-9-36/46

AUTHORS: Entelis, S. G., Tsikulin, M. A., Volkov, L. V., Chirkov, N. M.

TITLE: Methods and Apparatus of Physical-Chemical Research (Metody i tekhnika fiziko-khimicheskogo issledovaniya) The Determination of the Specific Surface Areas of Porous Bodies and Powders by the Method of Gaseous Flow (Izmereniye udel'noy poverkhnosti poristikh tel i poroshkov metodom istecheniya razrezhennogo gaza)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 2187-2191 (USSR)

ABSTRACT: The specific surface area of porous bodies can be measured using a gaseous flow in the Knudsen pressure range, which is described in the papers of B. V. Deryagin and his co-workers (Refs 1 and 2). The present paper describes an improved and simpler apparatus (Figs 4 and 5). The formula given by Deryagin was used in conversions in carrying out determinations. Using this method the specific surface areas of the following substances were determined (Tables 1 and 2): porous glass (Shott Nr 4, Iena); porous glass (Shott Nr 3, Druzhnaya Gorke); porous porcelain (svecha Chamberlana); birch charcoal; aluminum

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SOV/76-32-9-36/46

Methods and Apparatus of Physical-Chemical Research. The Determination of the Specific Surface Areas of Porous Bodies and Powders by the Method of Gaseous Flow

silicate; untreated kaolin as well as kaolin which had been heated previously to 800° ; porous quartz; burned chamotte; NB powder; tetranitro penterithrite; hexagene; and tri-nitrotoluene (TNT). There are 5 figures, 2 tables, and 4 references, 3 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki, Moskva (AS USSR, Moscow Institute of Chemical Physics)

SUBMITTED: December 27, 1957

Card 2/2

10.1410
26.2114

25750
S/024/61/000/001/002/014
E031/E113

AUTHOR: Tsikulin, M.A. (Moscow)

TITLE: On the explosive analogy in supersonic flow round
a body

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Energetika i avtomatika, 1961, No.1, pp. 91-96

TEXT: The application of the solution of the problem of a strong explosion to describe the trailing shock wave gives a parabolic front in agreement with experimental data, but the numerical value of the constant of proportionality obtained in the experiment is 30% greater than in the exact solution. Also, at low incident speeds and far from the body the form of the front is not parabolic. There is some interest in using the experimental results obtained in investigating the explosion in air of explosive cords. In order to compare results it is necessary to express the equivalent energy and a characteristic length of the cylindrical shell in terms of the incident flow and quantities characterising the dimensions and form of the body. The equivalent energy per unit length is proportional to the total frontal resistance, the
Card 1/ 3 X

25750

S/024/61/000/001/002/014
E031/E113

On the explosive analogy in supersonic flow round a body constant of proportionality being determined from a comparison of experimental data for the shell and the flow round the body. An approximate relation is known for the angle of incidence of the front to the axis and, substituting into it an expression for the Mach number on the front, an equation for the line of the front is obtained. Data available in the literature were used to make a comparison with the form given by this equation and, as a result, an approximate value for the above constant of proportionality was obtained. Agreement of experimental data showed that the other parameters of the wave could be calculated from the formulae for the shock wave of the explosion of a cylindrical shell. At a considerable distance from the point of the explosion the shock wave obeys the asymptotic law first obtained by L.D. Landau (Ref.11). Comparison of the results shows that the parameters of a ballistic shock wave are described very well by the expressions for the shock wave of an explosion. Thus the experimental results obtained for the shock wave of the explosion of a cylindrical shell are fully applicable for the description of the

Card 2/3

25750
S/024/61/000/001/002/014
E031/E113

On the explosive analogy in supersonic flow round a body
frontal shock wave both near and far from a body moving at
supersonic velocity (the body being assumed to have a blunt nose).
There are 2 figures, 1 table and 15 references: 5 Soviet and
10 non-Soviet.

SUBMITTED: May 6, 1960

X

Card 3/3

NEMCHINOV, I.V. ; TSIKULIN, M.A.

Estimation of heat transfer by radiation for large meteors
moving in the atmosphere at great speed. Geomag. 1 aer. 3
no.4:635-646 JI-Ag '63. (MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.

TSIKULIN, M.A. (Moskva)

Orgin of air shock waves in underwater explosions. PMTF
no.1:110-112 Ja - F '61. (MIRA 14:6)
(Underwater explosions) (Shock waves)

TSIKULIN, M. A.

Dissertations defended at the Institute of Mechanics for the academic degree
of Candidate of Physiomathematical Sciences:

"Shockwave of a Cylindrically Symmetrical Explosion."

Vestnik Akad Nauk, No. 4, 1963, pp. 119-145

TSIKULIN, M.A. (Moskva)

Asymptotic motion of shock waves, in which one traingularly profiled
pressure wave catches up with another. PMTF no.2:132-134 JI-Ag
60. (MIRA 14:6)

(Shock waves)

TSIKULIN, M.A.

Approximate evaluation of the dimensions of the Tunguska meteorite
of 1908 according to the destruction of the forest massif. Meteoritika
no. 20, 87-94 '61. (MIRA 14:5)
(Podkamennaya Tunguska Valley--Meteorites)

TSIKULIN, M.A. (Moskva)

Length of action of an air shock wave in a tube. PMTF no.4:60-
62 N-D '60.

(MIRA 14:7)

(Shock waves)
(Aerodynamics)

TSIKULIN, M.A. (Moskva)

Air shock wave in the detonation of a cylindrical charge of
great length. PMTF no.3:188-193 S-0 '60. (MIRA 14:7)
(Shock waves)
(Explosions)

L 27650-66 EWP(m)/EWA(h)/EWT(1)/EWA(d)/EWA(1) GH/WW
ACC NR: AP6018493

SOURCE CODE: UR/0020/66/167/001/0059/0062

AUTHOR: Zotkin, I. T.; Tsikhulin, M. A.

ORG: Committee on Meteorites, AN SSSR (Komitet po meteoritam AN SSSR); Institute of Physics of the Earth im. O. Yu. Schmidt, AN SSSR (Institut fiziki Zemli AN SSSR)

TITLE: Modeling of the explosion of the Tunguska meteorite

SOURCE: AN SSSR. Doklady, v. 167, no. 1, 1966, 59-62

TOPIC TAGS: meteorite, blast wave

ABSTRACT: Extremely time-consuming field work at the site of the destruction caused by the Tunguska meteorite, carried out in 1958-1965, yielded much factual data, especially on the pattern of falling and searing of the forest trees. Data were collected on the azimuths of 40,000 trees which were affected by the explosion of 30 June 1908. The evidence indicates that the devastation was caused by a powerful air wave with an energy of about $4 \cdot 10^{23}$ ergs. The authors of this study exploited the collected data for formulating a modeling of the event. The ballistic wave was simulated by a small linear explosion, but particularly strong at the end (a photograph shows the model). The trees were simulated by wires 3 cm in height to which a cylindrical plastic "crown" was attached. The wires were bent under the influence of the simulated explosion. The

Card 1/2

UDC: 523.51

L 27650-66

ACC NR: AP6018493

0
closest similarity between the modeled field of bending of the simulated trees and the pattern of forest destruction at the Tunguska site was for a slope of 30° to the horizon. Different variants of the modeled experiment are described. Apparently at the Tunguska site there was a wave of an axial explosion which determined the pattern of the falling of the trees. The increase of the linear energy of the explosion (ballistic wave) in the terminal part of the trajectory was relatively small. This article was presented by Academician V. G. Fesenkov on 16 June 1965. Orig. art. has: 4 figures and 2 formulas. [JPRS]

SUB CODE: 03 / SUBM DATE: 09 Jun 65 / ORIG REF: 008 / OTH REF: 003

Card 2/2 ce

I, 44237-66 ENT(1) GW

ACC NR: AP6022193

SOURCE CODE: UR/0026/66/000/006/0081/0089

AUTHOR: Zotkin, I. T. ; Tsikulin, M. A.

ORG: [Zotkin] Committee for Meteorites AN SSSR (Komitet po meteoritam AN SSSR); [Tsikulin] Institute of Physics of the Earth (Im. O. Yu. Schmidt, AN SSSR, Moscow (Institut fiziki zemli AN SSSR)

TITLE: Model of a shock wave of Tungus meteorite explosion

SOURCE: Priroda, no. 6, 1966, 81-89

TOPIC TAGS: meteorite, shock wave, shock wave formation, shock wave propagation, thermal explosion

ABSTRACT: The author discusses the peculiar radial fall of trees during the Tungus meteorite explosion. The topography of the area is described and the work of the eight seasonal field investigating expeditions to the area of the catastrophe is analyzed. The shock wave of the Tungus meteorite which imprinted itself in the area in the pattern of fall of trees, was caused by a flying meteorite breaking up at the end of its flight. The explosion was neither chemical nor nuclear, but thermal.

Card 1/2

UDC: 523.51;534.222.2

ACC NR: AP6022193

The shock wave was also found to be a combination of spherical and ballistic waves. The author describes in detail a model of the shock wave formed by the breaking up of the meteorite. This model was made to resemble the original one in order to determine the exact process of the meteorite breakup. The process of propagation of the model shock wave and the results of the experiment are analyzed. The shape of the wave established its origin as ballistic. It is concluded that the axis of symmetry of the Tungus-tree fall is the projection of a trajectory, i. e. that the meteorite moved from an east-south-east direction. The end of the trajectory is somewhat farther than the epicenter zone, therefore in theory, meteorite fragments that lost their velocity after breakup, could be found even much further away than the Yuzhnoye Boloto area. But, like comet nuclei, they must have consisted of ice, and therefore melted away. The author concludes that while the hypothesis of the ballistic nature of the shock wave answers many questions, it cannot yet provide all the details on the Tungus explosion. The solution is to be found in a comprehensive investigation. Orig. art. has: 10 figures. [GC]

SUB CODE: 03, ⁰⁸~~20~~ SUBM DATE: none/ ORIG REF: 001/

Card

2/2 MT

KOSTIU, Konstantin Aleksandrovich; TSIKUN, Danil Sergeyevich;
KONONOVA, T.S., red.

[Technical repair-shop cards for the maintenance of
units of the M-21 "Volga" automobiles] Tekhnologiches-
kie postovye karty na tekushchii remont agregatov avto-
mobilei M-21 "Volga." Moskva, Transport, 1965. 164 p.
(MIRA 18:7)

KOSTIN, K.A., inzh.; BOKHAN, I.T., inzh. Prinimali uchastiye: TSIKUN, D.S.,
tekhnik; TSAGOYKO, N.V., tekhnik; FILIN, A.G., red. izd-va;
GALAKTIONOVA, Ye.N., tekhn. red.

[Technical charts for the maintenance of the M-21A automobile,
"Volga"] Tekhnologicheskie i postovye karty tekhnicheskogo ob-
sluzhivaniia avtomobilia M-21 "Volga." Moskva, Avtotransizdat,
1961. 150 p. (MIRA 15:1)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo trans-
porta. Leningradskiy filial. 2. Otdel tekhnicheskogo obsluzhivaniya
i remonta Leningradskogo filiala Nauchno-issledovatel'skogo instituta
avtomobil'nogo transporta (for Kostin, Bokhan).
(Automobiles--Maintenance and repair)

KOSTIN, Konstantin Aleksandrovich. ~~Prinimali~~ uchastiye: BOKHAN, I.T.,
inzh.; TSIKUN, D.S., tekhnik. GRINEBERG, P.I., red.; BODANOVA, A.P.,
tekhn. red.

[Maintenance of M-21 "Volga" automobiles in automotive trans-
portation units] Tekushchii remont avtomobilei M-21 "Volga" v
avtokhoziaistvakh. Moskva, Avtotransizdat, 1963. 47 p.
(MIRA 16:6)

(Automobiles--Maintenance and repair)

TSIKUNOV, A. Ye., kand. tekhn. nauk (Gomel')

New operational requirements for freight car designs. Zhel. dor.
transp. 45 no.1:63-64 Ja '63. (MIRA 16:4)

(Railroads—Freight cars)

TSIKUNOV, A.Ye., kand. tekhn. nauk; SPITSYN, M.A., kand. tekhn. nauk

Review of I.V. Kragel'ski's book "Friction and wear" by
A.M. TSiKunov, M.A. Spitsyn. Vest mashinostr. 43 no.10:
90-91 0 '63. (MIRA 16:11)

PRAVDIN, Nikolay Vladimirovich, kand. tekhn. nauk, dots.;
BANEK, Tamara Semenovna, kand. tekhn. nauk, dots.;
TSIKUNOV, Anton Yefimovich, kand. tekhn. nauk, dots.;
YARMOLENKO, Vasil'y Yefimovich, kand. tekhn. nauk,
dots.; SAVCHENKO, I.Ye., kand. tekhn. nauk, red.

[Passenger stations and coach yards] Passazhirskie i
tekhnicheskie stantsii. Moskva, Transport, 1965. 223 p.
(MIRA 18:7)

TSIKUNOV, I.K.

Structure of isometric transformations of a simplex and
orthogonal vector space. Dokl. AN SSSR 165 no.3:500-501
N '65. (MIRA 18:11)

1. Institut kibernetiki AN UkrSSR. Submitted April 12, 1965.

CHERNOBYL'SKAYA, E.I. (Kiyev); TSIKUNOV, I.K. (Kiyev)

Sylow p -subgroups of orthogonal and simplex groups in hyperbolic space. Ukr. mat. zhur. 15 no.3:290-298 '63. (MIRA 16:12)

BAZ' Grigoriy Averkovich; MUROMTSEV, Gennadiy Petrovich; RAINKIN,
Aleksandr Nikolayevich; TREGUB, Iosif Konstantinovich;
TSIKUNOV, Kirill Andreyevich; Primal uchastiye BULYBENKO,
V.Yu.; MILENIN, V.G., dots., kand. tekhn. nauk, red.;
PODGUZOV, M.I., red.; MEDNIKOVA, A.N., tekhn. red.

[Design of pulse networks] Raschet impul'snykh skhem. [By]
G.A.Ba' i dr. Izd.2., dop. i perer. Moskva, Voen. izd-vo
M-va obor. SSSR, 1962. 267 p. (MIRA 15:3)
(Pulse circuits)

TSIKUNOV, K.A.

PHASE I BOOK EXPLOITATION

SOV/4362

Baz', Grigoriy Averkovich, Gennadiy Petrovich Muromtsev, Aleksandr Nikolayevich Rainkin, Iosif Konstantinovich Tregub, and Kirill Andreyevich Tsikunov

Raschet impul'snykh skhem (Design of Pulse Circuits) Moscow, Voenizdat, 1960. 237 p. No. of copies printed not given.

Ed. (Title page): V.G. Milenin, Candidate of Technical Sciences, Docent; Ed. (Inside book): M.I. Podguzov; Tech. Ed.: A.N. Mednikova.

PURPOSE: This textbook is intended for the specialist radio engineer who is assumed to be acquainted with the theories of the calculated circuits.

COVERAGE: The authors make an attempt to systematize engineering calculations of basic pulse circuits, and, as a basis for calculations, use the graphic-analytical method. Sections 1 and 3 of Chapter I and Section 1 of Chapter II were written by K.A. Tsikunov; Section 2 of Chapter I and also Section 3 of Chapter II by G.P. Muromtsev; Section 2 of Chapter II, and Chapter III by G.A. Baz'; Sections 4 and 5 of Chapter II by A.N. Rainkin; Chapter IV by I.K. Tregub. Design of the phantatron circuit was done by V.Yu. Bulybenko. There are 24 references, all Soviet.

Card 1/5

BAZ', Grigoriy Averkovich; MUROMTSEV, Gennadiy Petrovich; RAINKIN, Aleksandr Nikolayevich; TREGUB, Iosif Konstantinovich; TSIKUNOV, Kirill Andreyevich. Prinimal uchastiye BULYBENKO, V.Iu..
MILENIN, V.G., dotsent, kand.tekhn.nauk, red.; PODGUZOV, M.I., red.; MEDNIKOVA, A.N., tekhn.red.

[Calculation of pulse systems] Raschet impul'snykh skhem. Pod red. V.G.Milenina. Moskva, Voen.izd-vo M-va obor.SSSR, 1960.
237 p. (MIRA 13:5)

(Pulse techniques (Electronics))

TSIKUNOV, M., polkovnik; DZAMUKOV, A., mayor

Special tactical exercises. Voen.vest.40 no.10:65-67 0 '60.
(MIRA 14:5)

(Tactics→Problems, exercises, etc.)

BEL'SKIY, N.K.; TSIKUNOV, V.N.

Narrow electron paramagnetic resonance signal in coordination polymers. Vysokom.sped. 5 no.5:754-755 My '63. (MIRA 17:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

5.3-223 551.556:551.465
 TSikunov, V. A. Ob uporiadochenom peremeshivanii v verkhnem
 sloe moria. / The regular mixing in the upper layer of the sea/
 Voprosy Geografii, Gidrologiia, No. 26:325-249, 1951. 4 figs.,
 refs., 4 eqs. DLC—Deals with the formation of long convective
 cells in the surface layer of the sea and their dependence on wind
 speed (v) and direction and on the temperature difference water-air
 (Δt). Previous observations from Darwin up to Langmuir are dis-
 cussed and own observations summarized. (Method used: photographs
 of the water surface artificially covered by particles.) Distance
 between strips is about equal to the depth of mixing (to the
 temperature discontinuity layer). Critical wind speed for the
 establishment of convective cells $>4-5 \text{ m sec}^{-1}$; general condition:
 air cooler than water, but a few exceptions were observed, perhaps
 due to cooling by evaporation: Basic theoretical problems outlined.
 Subject Headings: 1. Ocean-atmosphere interaction 2. Convective
 cells. -- A. A.

TSIKUNOV, V. A.

PA 245T33

USSR/Geophysics - Oceanography

11 Oct 52

"Some Peculiarities of Ebb-Flow Phenomena in a Sound," V. A. Tsikunov, Inst of Oceanography, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 86, No 5, pp 925-928

Attempts to show on a scheme of interference of 2 waves that wave characteristics, like phase velocity and complex dependence of phase shift between "wave of levels" and "wave velocity" on space and time, are due to waves reflected from ends of a sound. Submitted by Acad P. P. Shirshov 11 Aug 52.

245T33

SOV/124-57-4-4311

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 65 (USSR)

AUTHOR: Tsikunov, V. A.

TITLE: Peculiarities of the Propagation of a Tidal Wave Along a Strait
(Osobennosti rasprostraneniya prilivnoy volny cherez proliv)

PERIODICAL: Tr. Gos. okeanogr. in-ta, 1953, Nr 23, pp 5-15

ABSTRACT: Elementary methods are employed in studying the propagation of a tidal wave along a strait. A straight sinusoidal wave originating at infinity travels along a rectilinear channel of constant depth and cross section (the rotation of the earth is disregarded); a reflected wave with a coefficient of reflection α is generated in the zone of abrupt widening of the channel, i. e., at the entrance to a large water basin. To visualize the phenomenon more clearly the author portrays the wave motion as being the result of the addition of a progressive wave with an amplitude of $1-\alpha$ and a standing wave with an amplitude of 2α . The wave process is a function of a single coordinate, the friction being neglected. In the wave regime thus obtained in a strait, the high-water line does not coincide with the peak of the compound wave.

Card 1/2

The velocity with which the high-water line travels along the channel

Peculiarities of the Propagation of a Tidal Wave Along a Strait

SOV/124-57-4-4311

differs from both the velocity of the progressive wave in the channel and the velocity of the wave peak. The horizontal velocities of the water particles, that is, the velocities of tidal current, were studied. The phase of the velocity wave is displaced with respect to the level wave. A chart is given showing the time differences between the passage of the high-water line and the line of maximum-flow velocities for different points along the channel axis at various values of the coefficient of reflection α . In the author's opinion, the simplified theoretical approach employed makes it possible to explain the phase shift observed between the level wave and velocity wave by the presence of the reflected waves.

P. N. Uspenskiy

Card 2/2

TSIKUNOV, V. A.

"A Certain Method of Computation the Thickness of a Layer Subject to a Convective Wind Mixture".

Tr. Gos. Okeanogr. in-ta, No 23, pp 35-41, 1953

The problem of thermal regime of the deep sea in which a convective wind layer is clearly formed is tentatively reduced in rough approximation to a problem of temperature distribution in a two-layer fluid in which the heat conductivity coefficient of the upper layer exceeds strongly the same coefficient of the lower layer. All data necessary for computation may be obtained from observations at the sea surface. (RZhFiz, No 9, 1955)

SO: Sum No 812, 6 Feb 1956

SHTOKMAN, V.B.; TSIKUNOV, V.A.

Development of absolute currents in the ocean by wind action.
Trudy Inst. okean. no.9:5-22 '54. (MLRA 8:6)
(Ocean currents)

SOV/124-57-7-7927

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 66 (USSR)

AUTHOR: Tsikunov, V. A.

TITLE: The Coefficient of Turbulent Viscosity in the Surface Layer of the Sea
(O koeffitsiyente turbulentnoy vyazkosti v verkhnem sloye morya)

PERIODICAL: Tr. Okeanogr. in-ta, 1954, Nr 27, pp 13-25

ABSTRACT: The exchange (Austausch) coefficient A is determined for the surface of the sea with particular considerations given to the waviness and the currents generated by the wind. Assuming that the mixing path l is determined by the sum of the mixing paths due to the waviness and the currents, the author obtains the approximate formula

$$l \approx \frac{x\lambda}{6\pi} + xz$$

where $x = 0.4$ is the Kármán constant, z is the depth, and λ is the length of a trochoidal wave. The final formula for A has the following appearance

Card 1/2

SOV/124-57-7-7927

The Coefficient of Turbulent Viscosity in the Surface Layer of the Sea

$$A \approx \rho \frac{2\pi^3}{T} \left(\frac{h}{\lambda}\right)^2 \left(\frac{x\lambda}{6\pi} + xz\right)^2 \exp\left(-\frac{4\pi z}{\lambda}\right)$$

where ρ is the density of the water, and T is the period and h the height of a trochoidal wave. A table and an $A(z)$ curve are given in terms of the wave parameters. In conclusion, the calculation of the mean value of A for the depth range $0 \leq z \leq \lambda$ is given. A comparison with the experimental data shows satisfactory agreement. Bibliography: 5 references.

Ye. M. Dobryshman

Card 2/2

SOV/124-57-7-7924

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7. p 66 (USSR)

AUTHOR: Tsikunov, V. A.

TITLE: Concerning the Calculation of the Annual Cycle of the Thickness of the Convection-and-wind Mixture Layer of the Sea (K voprosu o raschete godovogo khoda tolshchiny sloya konvektivno-vetrovogo peremeshivaniya v more)

PERIODICAL: Tr. Okeanogr. in-ta, 1954, Nr 27, pp 31-42

ABSTRACT: A solution is sought for a system of equations of thermal conductivity for two media with a constant coefficient of thermal diffusivity, a sea-surface temperature given as a known function of time t , a constant depth of the surface layer h , and a constant temperature at the boundary of the bottom layer. At a certain depth h there must be equal temperatures and heat fluxes. The solution of this problem enables one to find the heat flux at the surface of the sea as a function of various parameters, of h in particular. Having determined from factual observations the value of the heat flux at different moments of time, the author proposes to determine the value of h as a function of t .
Card 1/2 REVIEWER'S NOTE. Such a method of determining the depth of

SOV/124-57-7-7924

Concerning the Calculation of the Annual Cycle of the Thickness of (cont.)

the surface layer of the sea presupposes a weak parametric dependence of h on time. But, for problems with changing boundaries this dependence, as a rule, is substantial and, therefore, the results of the calculations according to the method proposed by the author may differ considerably from the exact solution.

Ye. M. Dobryshman

Card 2/2

SOV/124-57-3-3090

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 63 (USSR)

AUTHOR: Tsikunov, V. A.

TITLE: Contribution to the Theory of the Formation of a Temperature-discontinuity Layer in the Sea (K teorii formirovaniya sloya temperaturarnogo skachka v more)

PERIODICAL: Tr. Gos. okeanogr. in-ta, 1955, Nr 29, pp 92-106

ABSTRACT: The decisive influence of convection upon the thermal regime of the surface layer of the sea, and upon the formation of a temperature-discontinuity layer in particular, is determined. The quantitative evaluation of the effect of convection upon the turbulent exchange in the convection-and-wind-affected mixing layer is performed by means of a system of linearized equations of the convection theory as applied to the solenoids generated in the sea by wind-driven currents. The solution of the indicated system for the initial stage of the process of convection-cell formation are found under the assumption that this particular stage in its general characteristics resembles a stationary flow. The expressions for the velocity projections (u and w) and for the temperature of the layer (ϑ) contain a

Card 1/3

SOV/124-57-3-3090

Contribution to the Theory of the Formation of a Temperature-discontinuity (cont.)

constant factor B which cannot be determined within the purview of linear theory. In order to determine B, an additional assumption is introduced to the effect that the quantity of heat supplied to the free surface of the sea in excess of the amount of heat required to maintain the temperature gradient of the layer is completely dissipated within that layer. It is found that B is proportional to

$$\sqrt{\beta - \beta_{cr}}$$

(β and β_{cr} being the existing and the critical temperature gradients, respectively). An equivalent coefficient of thermal diffusivity is further introduced $\alpha_{ec} = \alpha + \alpha_c$, where α is a coefficient related to the equilibrium conditions and α_c is the "convection coefficient" determining the vertical inflow of heat $\Pi = \rho C_p \alpha_c \beta$. The author obtains an expression for α_{ec} which includes a parameter b. This parameter cannot be determined within the confines of the theory that is being developed. Because of this the author employs both theoretical calculations and experimental data. This enables him to work out the following approximate formula

$$\alpha_{ec} \sim \alpha \left[1 + \frac{8.4 \cdot 10^2}{H} \left(\frac{GP}{GP_{cr}} - 1 \right) \right]$$

Card 2/3

SOV/124-57-3-3090

Contribution to the Theory of the Formation of a Temperature-discontinuity (cont.)

where H is the thickness of the layer and G and P are the Grashof and Prandtl numbers of the fluid motion under study, respectively.

P. S. Lineykin

Card 3/3

SOV/124-57-5-5754

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 100 (USSR)

AUTHOR: Tsikunov, V. A.

TITLE: On a Method of Determining the Coefficient of Turbulent Heat Transfer in the Surface Layer of the Sea (Ob odnom metode opredeleniya koeffitsiyenta turbulentnoy teploprovodnosti v verkhnem sloye morya)

PERIODICAL: Tr. Gos. okeanogr. in-ta, 1956, Nr 33 (45), pp 80-91

ABSTRACT: A method is offered for the determination of the coefficient of turbulent heat transfer (K) in the sea suitable for determining the values of K averaged over a small period of time, namely, in the range of several ten-minute periods. The equation of the heat balance of the surface layer of the sea is used for the determination of K. Owing to the small thickness of this layer and the small averaging periods the local variation of the heat content and the effect of heat transfer due to ocean currents are disregarded. Then, for this layer and under these conditions, there exists a "quasi-stationary condition" consisting of a constancy with depth of the vertical heat flux and a similar quasi-stationary condition of the atmospheric layer directly

Card 1/4

SOV/124-57-5-5754

On a Method of Determining the Coefficient of Turbulent Heat Transfer (cont.)

above the surface of the sea. The distinction between the assumptions for the two layers consists in the fact that for the surface layer of the sea the author assumes not only a constancy of the turbulent heat flux alone but also of the sum of that heat flux and the flux created by the penetration into this layer of the solar radiation $Ie^{-\beta z}$ where β is the coefficient of "gray-body" absorption and I is the magnitude of this flux on the surface of the sea ($z=0$). The validity of the "quasi-stationary" hypothesis is not investigated quantitatively but is supported by general considerations. The equation given for the heat balance of the surface layer of the sea includes the heat flux through the surface itself Π , which is determined from the equation of the heat balance of that surface in the form of

$$\Pi = \Pi_1 + \Pi_2 + \Pi_3$$

where Π_1 is the turbulent heat flux in the atmospheric layer directly above the surface of the sea (termed by the author "contact heat transfer"), Π_2 is the heat consumed in the evaporation, Π_3 is the radiational balance of the surface of the sea erroneously termed "effective radiation". The fluxes Π_1 and Π_2 are determined according to the gradient-observation data on the wind, the temperature, and the humidity in the atmospheric layer directly above the surface of the sea according to the Budyko method, and the flux Π_3 is taken directly from

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SOV/124-57-5-5754

On a Method of Determining the Coefficient of Turbulent Heat Transfer (cont.)

actinometric-observation data. The formula for determining the mean value of the coefficient of turbulent heat transfer \bar{K} in a layer between two levels z_1 and z_2 of the surface layer of the sea has the following form

$$\bar{K} = \frac{z_2 - z_1}{T_2 - T_1} \left\{ -\Pi - I \left[1 - \frac{e^{-\beta z_1} - e^{-\beta z_2}}{\beta(z_2 - z_1)} \right] \right\} \quad (9)$$

where T_1 and T_2 are the temperatures at the z_1 and z_2 levels, respectively. For the nocturnal time of the 24-hour period formula (9) was used to calculate the coefficient Π on the basis of observational data obtained by ships of the Oceanographic Institute in a series of expeditions. The results of the calculations as well as some intermediate data are presented in tabular form and are also analyzed. REVIEWER'S COMMENTS. 1. It is not clear from the paper whether the flux Π_3 was determined as the radiational balance of the surface of the sea or as the effective radiation, i.e., whether the short-wave flux I was included or not. In the latter case the calculations for the daytime period according to formula (9) would give erroneous results, whereas if Π_3 is the effective radiation then the $-I$ term should not have been included in formula (9). 2. The effect of the errors in the original data is not analyzed in the paper. A scrutiny of the Card 3/4

SOV/124-57-5-5754

On a Method of Determining the Coefficient of Turbulent Heat Transfer (cont.)

tables, in conformity with the general considerations, shows that the results are not very reliable for small vertical temperature gradients $(T_2 - T_1)/(z_2 - z_1)$ as well as for small values of total vertical heat flux. Bibliography: 5 references.

L. S. Gandin

Card 4/4

TSIKUNOV, V.A.

LINEYKIN, Pavel Semovlovich; ~~TSIKUNOV, V.A.~~, otvetstvennyy redaktor;
GROSMAN, P.V., redaktor, SOLOVEYCHIK, A.A., tekhnicheskii redaktor.

[Fundamental problems in the dynamic theory of a baroclinic sea]
Osnovnye voprosy dinamicheskoi teorii baroklinnogo sloia meria.
Leningrad, Gidrometeorologicheskoe izd-vo, 1957. 138 p. (MLRA 10:4)

(Ocean)

TSIKUNOV, V.A.
3(9)

PHASE I BOOK EXPLOITATION

SOV/2546

Moscow. Gosudarstvennyy okeanograficheskiy institut

Trudy, vyp. 42 (Transactions of the State Institute of Oceanography, Nr 42) Moscow, Gidrometeoizdat, 1958. Errata slip inserted. 850 copies printed.

Scientific Eds.: V.A. Tsikunova and P.S. Lineykin; Eds.: A.D. Perlovskaya and V.I. Tarkhunova; Tech. Ed.: I.M. Zarkh.

PURPOSE: This collection of articles is intended for scientific workers, graduate students, and engineers working in the field of marine physics.

COVERAGE: This issue of the Institute's Transactions contains articles on the further development of the statistical theory of wind wave disturbance, the problem of wind currents in a stratified sea, and a simplified method of computing vertical temperature distribution in the sea during a period of cooling. No personalities are mentioned. References accompany each article.

Card 1/2

Transactions (Cont.)

SOV/2546

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Card 2/2

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Transactions of the State (Cont.)

SOV/2444

agitation on shoal waters, thermal conditions, and sea turbulence. The final paper describes a wave meter developed by GOIN (State Oceanographic Institute). There are 11 references: 10 Soviet and 1 German.

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TSIKUNOV, V.A.

Calculating vertical distribution of temperature and salinity in the
sea during the period of cooling. Trudy GOIN no. 47:5-12 '59.

(MIRA 12:11)

(Oceanographic research)

AFANAS'YEVA, N.A.; TSIKUNOV, V.A.

Determining strontium in seawater. Trudy GOIN no. 77:83-109 '64.
(MIRA 18:1)

TSIKUNOV, V.A.; SMIRNOVA, R.V.

Precalculation of temperature and the depth of mixing during
the cooling period of the sea. Trudy GOIN no.74:87-101 '63.
(MIRA 16:7)

(Ocean temperature)

TSIKUNOV, V.A.; SMIRNOVA, R.V.

Precalculation of temperature and the depth of mixing during
the cooling period of the sea. Trudy GOIN no.74:87-101 '63.
(MIRA 16:7)

(Ocean temperature)

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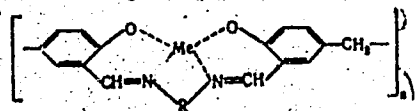
8/020/62/142/002/023/029
B101/B144

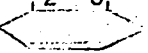
AUTHORS: Bel'skiy, N. K., and Tsikunov, V. N.

TITLE: e. p. r. phenomena in polymers with coordination bonds

PERIODICAL: Doklady Akademii nauk SSSR, v. 142, no. 2, 1962, 380 - 382

TEXT: The epr spectra of polymers with the general structure



were recorded, where R = $(-CH_2-)_2$ (5,5'-methylene-bis-salicylal ethylene diimine (I)); R = $(-CH_2-)_6$ (5,5'-methylene-bis-salicylal hexamethylene diimine (II)); R =  (5,5'-methylene-bis-salicylal-o-phenylene diimine (III)), or R was absent (methylene-bis-salicylal diimine (IV)); Me = Cu, Ni, Fe, Co, Zn, Cd. The preparations were synthesized by Ye. G. Rukhadze and V. V. Rode at the laboratoriya spetsial'nogo organicheskogo Card 1/3

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S/020/62/142/002/023/029
B101/B144

e. p. r. phenomena in polymers ...

sinteza khimicheskogo fakul'teta MGU (Laboratory for Special Organic Synthesis of the Chemical Division of MGU). The epr spectra were recorded by V. A. Kolbasov, M. M. Mukhina, and V. P. Nazarov at 9035 Mc/sec klystron frequency and with a magnetic field of 0 - 5000oe, using a spectroscope built by the Opticheskaya laboratoriya INEOS AN SSSR (Optical Laboratory of INEOS, AS USSR). Polymers containing no metals produced no resonance. The following metal compounds produced a signal: IV Cu ($g = 2.10$, $\delta H = 150$ oe, $P = 1$); II Cu ($g = 2.10$, $\delta H = 100$ oe, $P = 0.8$); III Cu (2.0; 210; 0.4); IV Fe (2.01, 830, 1); I Fe (4.14, 390, 2.10^{-3}); II Fe (2.03, 650, 1.6); IV Zn (2.00, 13, 1); I Zn (2.00, 12, 0.2); II Zn (2.00, 13, 0.1); III Zn (2.00, 13, 0.1); IV Cd (2.00, 13, 1); and III Cd (2.00, 13, 0.7). P is the relative signal amplitude, related to the amplitude of the compound with IV, which was put equal to unity; δH is half the width of the absorption line. Summing up: For the Cu, Ni, I Fe, and III Fe compounds, a plane configuration with D_{4h} symmetry exists near the metal atom. Tetrahedral symmetry is found for IV Fe and II Fe. The absence of signals in the case of Ni is attributed to the splitting of the spin triplet into two levels. In the case of Co, the signals were absent owing to the formation of a $3/2$, - $3/2$ doublet with low transition intensity.

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S/020/62/142/002/023/029
B101/B144

e. p. r. phenomena in polymers ...

For the polymers containing Zn or Cd, neither width nor intensity of the absorption lines changed during cooling to 78°K. It is possible that a Pauli paramagnetism may exist here. I. V. Obreimov and B. L. Livshits are thanked for discussions. There are 1 figure, 1 table, and 3 non-Soviet references. The three references to English-language publications read as follows: A. A. Maki, B. R. McGarvey, J. Chem. Phys., 29, 35 (1958); W. Low, Solid State Physics, Suppl. 2, N. Y. - London, 1960; M. Tinkham, Proc. Roy. Soc., 236A, 535 (1956).

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR) X

PRESENTED: July 12, 1961, by I. V. Obreimov, Academician

SUBMITTED: June 26, 1961

Card 3/3

ACCESSION NR: AP4032873

S/0051/64/016/004/0684/0687

AUTHOR: Tsikunov, V.N.

TITLE: Evaluation of the light flux in a confocal elliptical reflector

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 684-687

TOPIC TAGS: laser, laser source, laser reflector, confocal elliptical reflector, light concentration, elliptical reflector defocusing

ABSTRACT: Realization of optical systems with negative absorption - for example, lasers - involves provision of a dense light flux to irradiate the specimen (the laser proper). One means of realizing this is focusing the light by means of an elliptical reflector, with the cylindrical light source at one focus and the cylindrical specimen at the other; in fact, in lieu of a single elliptical reflector, one may use a set of such reflectors with one common focus (location of the specimen) and light sources at the other foci. The present paper gives an evaluation of the radiant flux incident on the specimen in the case of such a system as a function of the number of confocal ellipses, the eccentricity thereof, the power of the source (tube), and the ratio d_s/d_t , where d_s is the diameter of the specimen and d_t is the

Card 1/2

ACCESSION NR: AP4032873

diameter of the source tube. The appropriate equation for the intensity of the flux incident on the specimen in different possible cases are derived. Account is taken of the finite diameters of the specimen and tube; in all cases the lengths of both are assumed to be infinite. Some curves based on the calculations are given. The adduced equations would prove useful in selecting the optimum dimensions of the reflector for different setups. It is noted that similar calculations, based on a somewhat different approach, for the case of a single ellipse were recently published by S.B.Schuldt and R.L.Aagard (Appl.Optics,2,509,1963); the numerical results obtained by these authors are in good agreement with the evaluations arrived at in the present paper. "In conclusion, I would like to thank B.L.Livshits and C.K.Mukhtarov for discussions of the work." Orig.art.has: 12 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 24Jul63

ATD PRESS: 3079

ENCL: 00

SUB CODE: OP, EC

NR REF SOV: 000

OTHER: 003

Card 2/2

L 1117-66 EWA(k)/FBD/EWT(1)/EWT(m)/EEC(k)-2/EWP(i)/T/EWP(k)/EWA(m)-2/EWA(h)
 SCIB/1117(c) WG/OG
 ACCESSION NR: AP5020828

UR/0020/65/163/004/0870/0872

AUTHOR: Livshits, B. L.; Tsikunov, V. N. 44, 55

TITLE: Generation of stimulated emission by a crystal moving inside a cavity 21, 44, 55 62 56 B

SOURCE: AN SSSR. Doklady, v. 163, no. 4, 1965, 870-872

TOPIC TAGS: ruby laser, laser theory, laser pumping, resonant cavity 25, 44

ABSTRACT: This is a continuation of an earlier paper (DAN v. 162, no. 2, 1965) in which it was shown that the inverse-population inhomogeneities produced along the axis of a uniformly pumped laser crystal cannot be eliminated by diffusion of the inverse population, at least at room temperature. In this article the authors consider the effect of relative motion of the emitting crystal and a cavity with flat end mirrors in which a system of axial modes is produced. A stationary solution is obtained for the system of kinetic equations for the inverse population and the number of photons in the i -th axial mode. The conditions under which only a single stationary mode will be generated are obtained. For example, in the case of a ruby laser the relative velocity of the ruby and cavity must exceed 0.5 cm/sec. The relative motion causes the number of generated photons to change by 50%. The calculations are based on a simplified laser model with stationary cavity mirrors and two active centers with uniformly broadened luminescence line. Calculations using

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ACCESSION NR: AP5020828

a model with external mirrors, with the distance between the mirrors and the end faces of the crystal assumed small compared with the crystal length, yielded essentially the same results. The need for experimental verification of the calculations is indicated in the conclusion. "The authors thank Academician I. V. Obreimov for interest." This report was presented by I. V. Obreimov. Orig. art. has: [02]
15 formulas.

ASSOCIATION: Institut fiziki vysokikh davleniy Akademii nauk SSSR (Institute of High Pressure Physics, Academy of Sciences, SSSR)

SUBMITTED: 28 Oct 64

ENCL: 00

SUB CODE: EC, SS

NO REF SOV: 001

OTHER: 002

ATD PRESS: 4099

Card 2/2

TSIKUNOV, V.N.

Estimating the intensity of a luminous flux in a confocal
elliptic reflector. Opt. i spektr. 16 no. 4:684-687 Ap '64.
(MIRA 17:5)

L 13556-63

EMP(j)/EFF(c)/EWT(m)/BDS

ASD/ESD-3

Pc-4/Pr-4

RM/NW

ACCESSION NR: AP3000703

8/0190/63/005/005/0754/0755

70

AUTHOR: Bel'skiy, N. K.; Tsikunov, V. H.

TITLE: Narrow EPR signal in coordination polymers

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 5, no. 5, 1963, 754-755

TOPIC TAGS: electronic paramagnetic resonance, coordination polymers, Mg, Zn, Cd, Hg, Mn

ABSTRACT: An earlier study by the authors established the presence of a narrow symmetric electronic paramagnetic resonance signal in coordination polymers of Zn and Cd with alkyl- and arylamines of silicic aldehyde. In the present work the investigation was extended to bis-8-hydroxyquinolymethane and 1,8-dihydroxyanthraquinone coordination polymers of Mg, Zn, Cd, and Hg. The recording was conducted on a frequency of 9680 mc, checked against a standard with a known number of paramagnetic centers. Of the Zn-bisoxine complex three specimens having different molecular weights were tested. The obtained signals had a width of 8 ± 2 oersteds and a g-factor equal to 2.00. Their intensity depended on the polymerization degree of the specimens. Thanks for the samples of polymers are expressed to S. V. Vinogradova and T. M. Babchinitser (Institute of Organoelemental Compounds, Academy of Sciences SSSR) and Ye. G. Rukhadze (Moscow State University). Orig. art. has: 2

Card 1/2, Inst. of Organoelemental Compounds, Academy of Sciences SSSR

SECTION 14 - 14-14-14

SECTION 14 - 14-14-14

TOPIC TAGS population inversion, stimulated emission, laser, cavity, laser cavity.

SECTION 14 - 14-14-14

Card 142

14-00000

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Card 2/2

L 39518-66 EWT(1) GG/GD

ACC NR: AP6015086

SOURCE CODE: UR/0020/66/168/001/0072/0075

AUTHOR: Livshits, B. L.; Stolyarov, S. N.; Tsikunov, V. N.

ORG: Institute of General and Inorganic Chemistry im. N. S. Kurnakov, Academy of Sciences SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Effect of excitation diffusion on multiple-mode emission conditions

SOURCE: AN SSSR. Doklady, v. 168, no. 1, 1966, 72-75

TOPIC TAGS: laser optics, resonator, optic pumping, electromagnetic field

ABSTRACT: A general solution is given for a system of equations describing population inversion and the behavior of the electromagnetic field within a Fabry-Perot resonator with regard to excitation diffusion. The analysis is restricted to axial modes. An expression is derived for the maximum number of simultaneously emitted modes at high pumping energies. We thank Academician I. V. Obreimov for interest in this work. Orig. art. has: 18 formulas. [14]

SUB CODE: 20/

SUBM DATE: 04Aug65/

ORIG REF: 002/

OTH REF: 003/

ATD PRESS: 5004

Card 1/1 vmb

UDC: 535.232.14

L 21429-66 FBD/ENT(1)/ENP(e)/ENT(m)/EEC(k)-2/T/ENP(k)/ENA(h) IJP(c) WG/WH
ACC NR: AP6011491

SOURCE CODE: UR/0386/66/003/007/0279/0281

AUTHOR: Livshits, B. L.; Nazarov, V. P.; Sidorenko, L. K.; Tursunov, A. T.;
Tsikunov, V. N.

ORG: Institute of General and Inorganic Chemistry, Academy of Sciences SSSR (In-
stitut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Features of the time behavior of the generation in a laser with moving ruby
crystal

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
Prilozheniye, v. 3, no. 7, 1966, 279-281

TOPIC TAGS: ruby laser, laser emission, laser pulsation, laser r and d

ABSTRACT: This is a continuation of earlier work (Pis'ma ZhETF v. 1, no. 5, 35, 1965) where it was shown that a laser with a ruby crystal moving along the axis of a planar resonator with speed $v \sim 30$ cm/sec radiates energy in a narrower spectral interval than a laser with stationary crystal, and that this increases the spectral density of the stimulated emission. To check whether continuous generation can be realized in a laser with moving crystal, and to investigate the influence of crystal motion on the time behavior of the laser generation mode, the authors used high-speed photography partially supplemented with oscillograms pertaining to the start

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L 21429-66

ACC NR: AP6011491

of generation. All measurements were made at room temperature. It was observed first that in a wide range of above-threshold pumping, even at speeds $v \sim 40$ cm/sec, a sharp increase takes place in the frequency of the lasing spikes, until they merge into continuous regions which are short compared with the generation duration. Further increase in the speed, at ~ 1.1 of threshold pump, resulted in a gradual expansion of the continuous regions. At speeds $v \sim 80$ cm/sec the generation becomes continuous in a number of cases practically from start to end, but the intensity oscillations still disclose traces of the spike regime. The transformation of spike generation into continuous generation is greatly improved by introducing into the resonator a round diaphragm of 1 mm diameter, which increases the diffraction losses and prevents by the same token the generation by modes with high transverse indices. The level of the continuous generation then becomes approximately stationary. Detailed investigations of the conditions necessary to ensure continuous generation in a laser with moving crystal should make it possible in the future, on the one hand, to formulate the principles of continuous operation of a solid-state laser with a moving crystal, and, on the other, explain the spike character of the generation of most contemporary solid-state lasers. The authors thank Academician I. V. Obreimov for interest in the work and Ch. K. Mukhtarov for useful discussion of the results. Orig. art. has: 1 figure. [02]

SUB CODE: 20/ SUBM DATE: 05Jan66/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 4221
Card 2/2

... dependence of spectral composition of stimulated emission on the velocity

ABSTRACT: The authors report on an effect previously predicted by them (DAN SSSR, in press) in which the inhomogeneity of the inverse population in stimulated emission from solid media (crystals, glasses, etc.) becomes smoothed out when the curve of the inverse population becomes narrower. Because of this, the number of modes decreases and the stimulated-emission spectrum becomes narrower, but the total power remains the same.

ACCESSION NR: AF5016280

Enil'say and D. A. Mukhamedova for participating in the measurements, and A. Strei -

Sciences, SSSR

LIVSHITS, B.L.; TSIKUNOV, V.N.

Role of the diffusion of inverse population in the generation of induced radiation. Dokl. AN SSSR 162 no.2:314-315 My '65. (MIRA 18:5)

1. Institut fiziki vysokikh davleniy AN SSSR. Submitted October 31, 1964.

SAVERCHENKO, B.L.; LITVINOV, V.N.

Generation of induced radiation by a crystal moving inside a resonator.
1963. AN SSSR 243 no.4:370-372 1p 145.

(MIRA 18:8)

1. Institut fiziki vysokikh dacheny AN SSSR. Submitted October 31,
1964.

L 13556-63

ACCESSION NR: AP3000703

ENP(j)/EPF(c)/EWT(m)/BDS

ASD/ESD-3

Pc-4/Pr-4

RM/WW

8/0190/63/005/005/0754/0755

AUTHOR: Bel'skiy, N. K.; Tsikunov, V. N.

70

TITLE: Narrow EPR signal in coordination polymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 5, 1963, 754-755

TOPIC TAGS: electronic paramagnetic resonance, coordination polymers, Mg, Zn, Cd, Hg, Mn

ABSTRACT: An earlier study by the authors established the presence of a narrow symmetric electronic paramagnetic resonance signal in coordination polymers of Zn and Cd with alkyl- and arylamines of silicic aldehyde. In the present work the investigation was extended to bis-8-hydroxyquinolymethane and 1,8-dihydroxyanthraquinone coordination polymers of Mg, Zn, Cd, and Hg. The recording was conducted on a frequency of 9680 mc, checked against a standard with a known number of paramagnetic centers. Of the Zn-bisoxine complex three specimens having different molecular weights were tested. The obtained signals had a width of 8 ± 2 oersteds and a g-factor equal to 2.00. Their intensity depended on the polymerization degree of the specimens. Thanks for the samples of polymers are expressed to S. V. Vinogradova and T. M. Babchinitser (Institute of Organoelemental Compounds, Academy of Sciences SSSR) and Ye. G. Rukhadze (Moscow State University). Orig. art. has: 2

Card 1/2/ Association: Inst. of Organoelemental Compounds

L 14670-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(h) SCTB/LJP(c) WG
 ACC NR: AP6002726
 SOURCE CODE: UR/0056/65/049/006/1843/1849

AUTHOR: Livshits, B. L.; Tsikunov, V. N.

ORG: Institute of General and Inorganic Chemistry, Academy of Sciences SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Spectral properties of stimulated emission in a broad pumping range

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1965, 1843-1849

TOPIC TAGS: stimulated emission, laser pumping, laser radiation spectrum, laser emission

ABSTRACT: The spectrum of stimulated emission of a laser operating in the stationary regime is calculated analytically under the assumption that the pump power is low. The axial-mode model proposed by C. L. Tang et al. (J. Appl. Phys. v. 34, 2289, 1963) is used. The initial equations introduced by Tang et al. are made more precise, and in addition, the authors consider, as a continuation of their earlier work (DAN SSSR v. 163, 870, 1965), the influence of the pump power on the narrowing of the spectrum of a laser in which the active centers move relative to the resonator mirrors. A new effect is predicted, wherein the spectrum becomes

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L 14670-66

ACC NR: AF6002726

2

saturated with axial modes, i.e., the laser emission spectrum is found to have a finite width. However, although the number of modes is limited, it is still large and the power distribution over the modes is parabolic. The analysis shows that reduction in the number of modes can be effected by using a low-Q resonator, and by using a nonstationary mode with a spike duration in excess of a critical value. Some results of the theoretical deductions of this paper have been confirmed in experiments performed by the authors and reported elsewhere (with V. P. Nazarov and L. K. Sidorenko, ZhETF Pis'ma, v. 1, No. 5, 23, 1965). "The authors thank Academician I. V. Obreimov for interest in the work and Ch. K. Mukhtarov for a useful discussion." Orig. art. has: 3 figures and 25 formulas. [02]

SUB CODE: 20/ SUBM DATE: 14Jun65/ ORIG REF: 005/ OTH REF: 005
ATD PRESS: 4/98

Card 2/2 *SC*

AID P - 5041

Subject : USSR/Engineering

Card 1/2 Pub. 103 - 12/22

Authors : Gorokhov, N. K. and N. V. Tsikurin

Title : On revision of forms for rating certificates (plates)
of metal-cutting machines.

Periodical : Stan. 1 instr., 4, 36-38, Ap 1956

Abstract : Because of the need for better identification of the
properties of more than 2,000 models of universal metal-
cutting machines of foreign and domestic origin the
authors present examples of desirable changes to be incor-
porated into the rating [plates] certificates of the
machines for the benefit of designers and users.
Particular attention is focused on the fast-wearing
component parts of the machines and the sections changed
after alteration, if any. Two samples of rating certifi-
cates with drawings of component parts.

AID P - 5041

Stan. 1 instr., 4, 36-38, Ap 1956

Card 2/2 Pub. 103 - 12/22

Institutions: Tools Scientific Research Institute of the Ministry for Building of Heavy Machinery (ORGTYAZHMASH) and the Institute for Organization of the Machine-tool and Instrument Industry (ORGSTANKINPROM).

Submitted : No date

TSIKURIN, N.V., kandidat tekhnicheskikh nauk; GOROKHOV, N.K., inzhener.

~~Repair drawing.~~ Standartizatsiia no.1:75 Ja-F '57. (MIRA 10:5)
(Mechanical drawing--Standards)

AUTHOR: None Given

28-4-29/35

TITLE: Replies to Published Articles and Letters (Otvety na opublikovannyye stat'i i pis'ma)

PERIODICAL: Standartizatsiya, 1957, # 4, p 80 (USSR)

ABSTRACT: Information on the reaction to 4 articles published in "Standartizatsiya" 1957, # 1, is given.
 1) To the article "On Standards for Methods of Measuring Density", by S.S.Kivilis. The Committee of Standards, Measures and Measuring Devices has said that amendments will soon be made in GOST 3900-47.
 2) To the article "Inaccuracies in GOST 5302-50", by A.F.Kovalenko, Chief Engineer of the All-Union Technological Project Institute (Vsesoyuznyy proektno-tekhnologicheskii institut) Yeremin informs that the inaccuracies will be eliminated in the projected new standard.
 3) To the article "On Repair Drawings", by N.V.Tsikurin and N.K.Gorokhov. The Leningrad branch of the All-Union

Card 1/2

Replies to Published Articles and Letters

28-4-29/35

Technological Project Institute agrees with the author and considers it practical that a corresponding special document be issued specifying the machinery for which such schematic repair diagrams would be obligatory (automobiles, tractors, motorcycles, engines, metal cutting machine tools, printing, textile and road construction machines, etc.). The form of this document should be drawn up by the Committee of Standards, Measures and Measuring Devices in collaboration with the Scientific Technical Committee of the Council of Ministers of the USSR.

4) To the article "Standards for Meat and Meat Products are to be Considered", by A.V. Nikolayeva (conditions in the meat industry and the quality of production). The article was discussed at the Ministry of Meat and Milk Products of USSR, and the critique was found to be just. Measures to improve the quality of products have been worked out with the participation of many specialists.
Library of Congress

AVAILABLE:
Card 2/2

AUTHOR: Tsikurin, N.Y., Candidate of Technical Sciences 28-58-3-10/39

TITLE: A System of Conventional Designations for Rolled Steel (Sistema uslovnykh oboznacheniy stal'nogo prokata)

PERIODICAL: Standartizatsiya, 1958, Nr 3, pp 33-39 (USSR)

ABSTRACT: The "GOST" standards for rolled steel (band, wire, pipes, profiles) give no definite regulations on designations of parameters like the degree of dimensions accuracy, the way of rolling (hot or cold), work hardening, etc; different "GOSTs" use different lettering for designations of one and the same parameter -- as for instance "B" means high strength of wire in one "GOST", common accuracy of steel band in another, high accuracy of steel band in a third, and high accuracy of pipe diameter in still a fourth "GOST". In view of the ensuing difficulties, the VNII of the Committee of Standards, Measures and Measuring Devices has developed a project for a designation system for parameters of steel and non-ferrous metals and alloys. This project is fully given in the article. There are 4 tables.

ASSOCIATION: VNII Komiteta standartov, mer i izmeritel'nykh priborov (VNII of the Committee of Standards, Measures, and Measuring Devices)

Card 1/1

1. Steel--Standards

PROSKURYAKOV, Andrey Vladimirovich; MEL'NIKOV, M.F., inzh., retsenzent;
TSIKURIN, N.V., kand.tekhn.nauk, retsenzent; AVRUTIN, S.V.,
dotsent, red.; BARYKOVA, G.I., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Technological and economic bases for standardizing and universal-
izing machine-tool attachments] Tekhniko-ekonomicheskie osnovy
normalizatsii i universalizatsii prispособlenii. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostroitel'-ry, 1959. 159 p. (MIRA 12:12)
(Machine tools--Attachments)

28(3)

SOV/28-59-3-19/25

AUTHORS: Tsikurin, N.V., Candidate of Technical Sciences, and
Gorokhov, N.K., Engineer

TITLE: To Reduce the Nomenclature of Bolts (Sokratit' nomen-
klaturu boltov)

PERIODICAL: Standartizatsiya, 1959, Nr 3, p 54 (USSR)

ABSTRACT: The state standards for bolts ("GOST's 7784-57" to
"7820-57") include 22 types and 9520 type-sizes of
bolts. The subdivision by the surface finish into
rough, finish and semi-finish grades is based on ob-
solete production technology (hot heading and cutting).
The finish grades are further subdivided into groups
of dimension tolerances. The authors think that the
Nauchno-issledovatel'skiy institut metallicheskikh
izdelyi, or NIIMETIZ, (Scientific Research In-
stitute of Metal Products) ought to work out a new
nomenclature of bolts for the machine building in-

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SOV/28-59-3-19/25

To Reduce the Nomenclature of Bolts

dustry and construction, and reduce the nomenclature, which is important in view of the organization of the specialized fastener plants. The nomenclature could be cut 37%, and the number of type-sizes by 40%. There is 1 table.

Card 2/2